

REMARKS

Reconsideration of this application is respectfully requested in view of the amendments and arguments presented herein. Claims 1-60 remain pending in the present application. Claims 21, 24, 26, and 27 have been amended. No new matter has been added.

Drawings

The drawing are objected to because the shaded portion of figure 9a, 9g, 9i, 9k, 10, 11, 12, 13 and 19 are not clear after scanning. Applicant submits herewith corrected drawing sheets in compliance with 37 CFR 1.121(d) and therefore Applicant respectfully requests the Examiner to review and approve these drawings.

35 U.S.C. Section 112, second paragraph

Claims 1-60 are rejected, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant respectfully traverses. Applicant has amended Claims 21, 24, 26, and 27 herein to overcome the rejection under 35 U.S.C. Section 112, second paragraph.

With regard to Claims 1, 21 and 38, the rejection alleges that it is unclear as to what is defined by the “master processing unit” or how it is

different than other processing unit. Applicant respectfully traverses.

Applicant respectfully asserts that one of ordinary skill in the art would understand the phrase “master processing unit.”

With regard to Claim 3, the rejection alleges the “system management rules” recited in Claim 3 are unclear as to what is included is in the management rules. Applicant respectfully traverse. Applicant respectfully points out that that Claim 3 recites, and the specification describes, that the system management rules are for controlling the manner in which the executable transactions are executed by the processor elements as claimed.

Therefore, Applicant respectfully asserts that the 35 U.S.C. section 112, second paragraph rejections are overcome. Dependent Claims overcome the 35 U.S.C. section 112, second paragraph rejection by virtue of their dependency.

35 U.S.C. Section 103(a) Rejections

The present Office Action rejects Claims 1-5, 7-14, 18-19, 21-32, 38-41, 47-53 and 56-59 as being unpatentable over US Patent No. 5,202,987 (hereinafter Bayer) in view of US Patent No. 5,504,670 (hereinafter Barth). Applicant respectfully traverses.

Applicant directs the Examiner to Claim 1 which recites (emphasis added):

A resource management and task allocation controller for a multicore processor having a plurality of interconnected processor elements, at least one of which is a master processing unit, each element providing resources for processing executable transactions, the controller being in communication with each of the processor elements but separate from the master processing unit, and comprising control logic to allocate executable transactions within the multicore processor to a one of the processor elements in accordance with one of a range of pre-defined allocation parameters.

Claims 21 and 38 recite distinguishing limitations similar to those of Claim 1.

In contrast, Applicant points out that Bayer mentions a synchronizer/scheduler apparatus for a multiprocessor system (See abstract and Col 4, lines 18-21). Applicant respectfully asserts that a multiprocessor system is substantially different from a multicore processor as claimed. Applicant further respectfully asserts that Barth does not remedy the shortcomings of Bayer. More specifically, Applicant respectfully asserts that Barth does not teach or suggest a multicore processor as claimed.

Further, Applicant respectfully asserts that Barth does not teach a master processing unit of a multicore processor as claimed. The rejection admits that Bayer does not specifically disclose at least one of which is a master processing unit. Based on the rationale above, Applicant respectfully

asserts that because Barth does not teach or suggest a multicore processor, Barth cannot teach or suggest a master processing unit of a multicore processor as claimed. Therefore, Applicant respectfully asserts that embodiments of the present invention as recited in Claim 1 are not rendered obvious by the combination of Bayer and Barth within the meaning of 35 U.S.C. 103(a).

Independent Claims 21 and 38 are patentable for similar reasons as recited above. Accordingly, Applicant respectfully asserts that dependent Claims 2-5, 7-14, 18-19, 22-32, 39-41, 47-53, and 56-59 are patentable by virtue of their dependency.

As per Claim 3, the rejection alleges Bayer teaches that the range of predefined allocation parameters included within the control logic of the controller contains a plurality of system management rules, for controlling the manner in which the executable transactions are executed by the processor elements. Applicant respectfully disagrees. Applicant points out that the synchronizer/scheduler of Bayer performs scheduling of tasks (Col 5, lines 29-31). Applicant respectfully asserts that a teaching of task scheduling is substantially different from controlling the manner in which executable transactions are executed by processor elements as claimed (emphasis added). Therefore, Applicant respectfully asserts that embodiments of the

present invention as recited in Claim 3 are not rendered obvious within the meaning of the 35 U.S.C. 103(a).

As per Claim 7, the rejection alleges that Bayer teaches a dedicated memory manager which controls access by an executable transaction manager to the dedicated memory. Applicant respectfully disagrees. To the extent that Bayer may mention that the code of tasks is loaded in memory and that the topology of the task map is held by the synchronizer/scheduler (Col 7, lines 16-17), Applicant respectfully asserts that Bayer does not teach or suggest a dedicated memory manager controlling access by an executable transaction manager to the dedicated memory, as claimed. Therefore, Applicant respectfully asserts that embodiments of the present invention as recited in Claim 7 are not rendered obvious within the meaning of the 35 U.S.C. 103(a).

As per Claims 8-10, the rejection alleges Bayer teaches a dedicated memory. Applicant respectfully disagrees. To the extent that Bayer may mention that the code of tasks is loaded in memory and that the topology of the task map is held by the synchronizer/scheduler (Col 7, lines 16-17), Applicant respectfully asserts that Bayer does not teach or suggest a dedicated memory for access by a resource management and task allocation controller, as claimed. Accordingly, Applicant respectfully asserts that Bayer

does not teach an executable transaction input manager configured to maintain an indication of available memory within dedicated memory, an executable transaction manager input configured to maintain a list of available memory locations with the dedicated memory, or an executable transaction input manager maintaining the indication of available memory as a result of updated instructions from a dedicated memory manager, as claimed. Therefore, Applicant respectfully asserts that embodiments of the present invention as recited in Claims 8-10 are not rendered obvious within the meaning of the 35 U.S.C. 103(a).

As per Claim 12, the rejection relies on Bayer teaching control logic comprising a time manager configured to provide timer function to an executable transaction manager. Applicant respectfully disagrees. Applicant can find no mention in Bayer of a time manager configured to provide timer functions as claimed. Therefore, Applicant respectfully asserts that embodiments of the present invention as recited in Claim 12 are not rendered obvious within the meaning of the 35 U.S.C. 103(a).

As per Claim 25, the rejection alleges Bayer teaches a dedicated memory being exclusively accessible by the controller. Applicant respectfully disagrees. To the extent that Bayer may mention that the synchronization/scheduling subsystem comprises a task map which contains

dependencies between tasks to be performed by the processors (Col 4, lines 58-60), Applicant respectfully asserts that Bayer does not teach or suggest a dedicated memory exclusively accessible by the controller, as claimed (emphasis added). Therefore, Applicant respectfully asserts that embodiments of the present invention as recited in Claim 25 are not rendered obvious within the meaning of the 35 U.S.C. 103(a).

As per Claim 26, the rejection alleges Bayer teaches the dedicated memory being accessible by both the controller and by at least one further component of the multicore processor. Applicant respectfully disagrees. As mentioned above, Applicant respectfully asserts that Bayer does not teach or suggest a multicore processor. Further, Applicant points out that Bayer only mentions that the task map is stored in the synchronization/scheduling subsystem (Col 4, lines 58-60) and Applicant respectfully asserts that Bayer does not teach or suggest the task map is accessible by at least one further component of a multicore processor as claimed. Therefore, Applicant respectfully asserts that embodiments of the present invention as recited in Claim 26 are not rendered obvious within the meaning of the 35 U.S.C. 103(a).

As per Claim 47, the rejection alleges Barth teaches creating, executing or deleting an executable transaction for a first management client,

with a second transaction management client. Applicant respectfully disagrees. To the extent that Barth may mention that each sub-controller can control the resources on the lower level (Col 4, line 21), Applicant respectfully asserts that Barth does not teach or suggest creating, executing or deleting an executable transaction for a first transaction management client, with a second transaction management client, as claimed (emphasis added). Therefore, Applicant respectfully asserts that embodiments of the present invention as recited in Claim 47 are not rendered obvious within the meaning of the 35 U.S.C. 103(a).

As per Claim 49, the rejection alleges that Barth teaches that the set of scheduling parameters is user-definable. Applicant respectfully disagrees. Applicant respectfully asserts that Barth is silent as to a set of user-definable scheduling parameters as claimed. Therefore, Applicant respectfully asserts that embodiments of the present invention as recited in Claim 49 are not rendered obvious within the meaning of the 35 U.S.C. 103(a).

The present Office Action rejects Claims 6, 20, 33-37, 45, and 46 as being unpatentable over Bayer in view of Barth and further in view of US Patent No. 6,314,501 (hereinafter Gulick). Applicant respectfully traverses.

For the reasons stated above, Applicant respectfully submits that independent Claim 1, from which Claims 6 and 20 depend and independent Claim 21, from which Claims 33-37 depend, and independent Claim 38, from which Claims 45 and 46 depend are allowable over Bayer in view of Barth. In addition, Applicant respectfully submits that Gulick does not remedy the shortcomings of Bayer in view of Barth. Therefore, Applicant respectfully submits that Claims 6,20, 33-37, 45, and 46 are also allowable over the combination of Bayer, Barth, and Gulick as being dependent on allowable base claims.

As per Claim 20, the rejection alleges that Gulick teaches the control logic comprises a system interrupt manager for converting system interrupts in a first format employed within the multicore processor, into controller interrupts in a second, different format, which second format is understandable by the executable transaction manager. Applicant respectfully disagrees. To the extent that Gulick may mention an inter-process interrupt mechanism is employed to alert a receiving partition that signals have been placed in one of its input queues by a sending partition (Col 45, lines 44-47), Applicant respectfully asserts that Gulick does not teach a system interrupt manager, for converting system interrupts in a first format employed within the multicore processor, into controller interrupts in a second, different format, wherein the second format is understandable by

the executable transaction manager, as claimed (emphasis added).

Therefore, Applicant respectfully asserts that embodiments of the present invention as recited in Claim 20 are not rendered obvious within the meaning of the 35 U.S.C. 103(a).

The present Office Action rejects Claims 43 and 44 as being unpatentable over Bayer in view of Barth in view of US Patent 5,592,671 (hereinafter Hirayama) and further in view of Gulick. Applicant respectfully traverses.

For the reasons stated above, Applicant respectfully submits that independent Claim 38, from which Claims 43 and 44 depend are allowable over Bayer in view of Barth in further in view of Gulick. In addition, Applicant respectfully submits that Hirayama does not remedy the shortcomings of Bayer in view of Barth in further view of Gulick. Therefore, Applicant respectfully submits that Claims 43 and 44 are also allowable over the combination of Bayer, Barth, Hirayama, and Gulick as being dependent on allowable base claims.

CONCLUSION

Applicant respectfully asserts that all claims (Claims 1-60) are in condition for allowance and Applicant earnestly solicits such action from the Examiner. The Examiner is urged to contact Applicant's undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Please charge any additional fees or apply any credits to our PTO deposit account number: 50-4160.

Respectfully submitted,
MURABITO, HAO & BARNES

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